Social Capital and Farmer Welfare in Malaysia

Shigeki YOKOYAMA
Abu Kasim ALI

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1. Introduction

The concept of social capital has increasingly influential since the mid 1990s in the fields of social and economic development (Isham, et al. 2002; Grootaert, et al. 2002a). It opened up unique opportunities for interdisciplinary research and development allowing scholars, policy makers, and practitioners to enjoy unprecedented level of cooperation and dialog, though receiving critics on some flaws of its economic definition (Woolcock 2001). Increasing number of empirical studies has been done in developing countries, while studies featuring rural Malaysia were quite limited so far[1].

Malaysia achieved steady industrialization during the last three decades, led to a decline in the agricultural sector's contribution to national economies, as its share to GDP has declined from 21% in 1985 to 8% in 2002. However, rural development has always been an important agenda of the government addressing poverty issues. The incidence of poverty in the rice sector is always highest in the country. In 1990, the poverty level among rice farmers stood at 40%, while national 17%, urban 7% and rural 21% (The Economic Planning Unit, Prime Minister Department). This paper aims at quantitative measuring the level of social capital and examining its influence on welfare at household level in rice granary area of south peninsula Malaysia[2].

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[1] Ghazali (2003) explores the informal rotating credit in the livelihoods of low-income urban households in Penang, Malaysia, showing its benefit to poor women.

[2] The survey was implemented under the project "Redesigning Integrated Community Development in Asian Ten Countries (2003-2005)" funded by Asian Productivity Organization (APO). The authors appreciate APO for its financial and technical supports.

2. Research site and survey method

The research site is located in the two sub-districts of Sawah Sempadan and Sungai Burung, district of Kuala Selangor, state of Selangor, around 80 km northwest of Kuala Lumpur, the national capital. The area is one of the eight main rice granaries where double cropping has been practicing since the early 1970s under well-facilitated irrigation systems. The area is suitable for the study as it represents a normal livelihood of a farming community in the country, particularly in rice granary areas where small holder rice farming is major employment and income source.

A preliminary visit to the potential study area was conducted in the early 2004 to determine the manageable sample size, area coverage and specified survey items. Village Security and Development Community Chairperson (Pengerusi Jawatankuasa Pembangunan dan Keselamatan Kampung) was interviewed for general information on a village, as he plays dominant role in all aspect of community affairs. Survey respondents consisted of 10 households from each of 6 villages in the two sub-districts, being selected based on modified stratified random sampling. Household survey was conducted with structured questionnaire by MARDI staff.

3. Analytical framework

3.1 Categorization of social capital

There is no consensus upon an established definition of social capital. Here we follow the broad concept of social capital, namely, "institutions, relationships, attitudes, and values that govern interactions among people and contribute to economic and social development" (Grootaert, et al. 2002b). The effects of social capital take three forms: i) increased

availability of information and lowered its cost; ii) facilitated collective decisions/actions; and iii) reduced opportunistic behavior by community members (Grootaert, et al. 2002b). As for typology, Uphoff (2000) delineated the two forms: structural (observable social structures such as networks, organizations and rules they embody) and cognitive (norms, values, attitudes). Based on its function, four types are categorized: bonding (intracommunity tie), bridging (intercommunity horizontal tie), linking (vertical connection) and bracing (vertical and horizontal connection within a limited actors)[3].

3.2 Model

Our estimation is based on the generic equation:

$$W = \alpha + \beta S + \theta H + \rho O + \upsilon$$

Where:

W = Welfare indicator for household

α = Constant term

S = variables representing social capital

β = Coefficient of variable S

H = Variables representing human capital

θ = Coefficient of variable H

O = Variables representing other characteristics

ρ = Coefficient of variable O

υ = error term.

As for welfare indicators, the three variables were specified as:

Health status: Household head perception on their health (1=least healthy, 10 very healthy)

[3] For those categorizations, refer Uphoff (2000), Grootaert et al. (2004) and Rydin et al. (2004).

Rice yield: Actual yield in ton per hectare in a year (double cropping)

Household expenditure per capita: Monthly per capita in RM, excluding agriculture inputs.

Social capital indicators were further classified into:

Structural social capital:

SC1: Family members' attendance at community activity. (Frequency in last one year)

SC2: Participation in organization (Number of organizations household head is a member)

SC3: Involvement in formal organization (Years household head has been member of organizations)

SC4: Dummy level of participation in formal organization (As an official= 1, just a member = 0)

SC5: Dummy involvement in PPK (Persatuan Peladang Kawasan, Area Farmers Organization) (Involve in PPK activities =1, Not involve = 0)

Cognitive social capital:

SC6: Dummy perception on the role of PPK (Important= 1, No=0)

SC7: Dummy community trust (All can be trusted =1, No = 0)

Human capital indicator:

HC: Years of formal education household head attended.

Physical capital indicator:

PC: Hectare of owned and rented farmland for 2003 operation.

Other household characteristics:

AG: Age of household head

INC: Household annual income (RM)

Based on the above mentioned categorization, elements of social capital measured in this study were arranged in Table 1.

4. Results and discussion

Results of the estimation are summarized in Table 2. As for self-rated health status of the household heads, education level shows positive effect on respondent's health status. While older respondents, as expected, rate themselves less healthy than the younger. On the social capital variables, those attending more community activity appear less healthy. It seems that old farmers normally have more time to spend on community activities and they are more loyal to their organization. Other structural social capital variables are not significant. Regarding cognitive social capital, those who think PPK is important are relatively healthier.

In terms of agricultural productivity measured by rice yield, frequency of attending community activities and duration of involvement in organization contribute to yield level. Farmers who have wider and longer relationships with organizations seem to perform better farming. Wile official status in formal organization and involvement in PPK cause a decline in rice productivity. This seemingly contradictive findings call further investigation, as the role of PPK was originally to facilitate productivity improvement strongly guided by the government. Thanks to the government longstanding rice policies, the basic rice production technologies have been well diffused among farmers. While, PPK continue to provide routine stereotype services such as delivery of input materials and transportation of harvested rice. Considering theses situations, small scale part-time farmers, who have little incentive to increase productivity as their farm income is negligible, have good incentive to join PPK to save transaction cost in purchasing input materials and marketing their harvest. In contrast, more productive full-time farmers may tend to transact directly with merchants for procurement of production materials in bulk at a discount and seeking more favorable rice market. Those progressive farmers seem to be young or in middle age, while older farmers

are more chance to be in an official position of the formal organizations. As for human capital, a farmer of higher educational level achieved higher yield.

Higher spending on household expenditure should indicate a better standard of living. It is understandable that a household, of which head enjoys honorary post in the formal organization, stands at higher economic status. The office bearers are believed enjoying more economics benefit from their position, thus have more spending power. It is also plausible that more business oriented farmers have little incentive to involve in PPK by themselves, while eminent person in the community tends to attach importance of PPK as its social and political functions. As is obvious, the household with large assets, i.e. land holdings, deserve higher economic status.

In general, structural social capital shows relatively clear impacts on farmer welfare whether positive or negative, while the influence of cognitive social capital is vaguer (Table 3). It should be noted that interpretation of social capital is highly contextual in terms of socio-economic, political, cultural and historical settings. Seemingly contradictive effects of linking and bracing structural social capital in this study present a good example. Malaysian rice sector has been highly politicized as the dominant farm policy agenda shifted from food problem to agricultural adjustment in the course of rapid economic growth (Ishida 2001). The role of farmers' organizations transformed as well. After the infrastructural development was mostly completed and therefore mechanized labor saving production technology was well diffused, PPK became to function mainly as a distributional channel of government subsidies to rice farmers.

5. Policy implications

The finding of bonding/bridging structural social capital has positive effect on productivity suggests that to further improve farming performance, more spontaneous and

horizontal farmer-to-farmer connections became increasingly important. At the same time, to alleviate poverty, bracing structural social capital which strengthens both vertical and horizontal human network appears important. The efficacy of networking is also reflected by the positive sign of cognitive linking social capital for income and health (Table 3).

Table 1 Classification of social capital by form and function

		Function			
		Bonding	Bridging	Linking	Bracing
Form	Structural	SC1	SC2 SC3	SC5	SC4
	Cognitive	SC7		SC6	

Source: Authors.

Table2 Estimation results of welfare determinants in sample households, Kuala Selangor, Malaysia, 2003

Dependent Variable	Health Status	Rice yield	Monthly expenditure
Household Level Variables	Coefficients	Coefficients	Coefficients
Constant (α)	12.336 (6.324)***	12.079 (3.788)***	3376.502 (2.826)***
Structural SC			
SC1: Community activity attendance	-0.0177 (-1.827)**	0.0587 (1.228)**	14.047 NS
SC2: Participation in o rganization	-0.182 NS	-0.284 NS	
SC3: Involvement in formal org.	0.0046 NS	0.0851 (1.627)**	-0.1643 NS
SC4: Member status		- 2.267 (-1.387)**	1526.902 (1.676)*
SC5: PPK involvement		-1.425 (-1.389)**	-866.622 (1.802)*
Cognitive SC			
SC6: Importance of PPK	1.164 (2.434)**	-0.190 NS	996.764 (2.085)**
SC7: Community trust	0.875 NS		
Human capital			
HC: Household head education	0.193(1.891)**	0.204 (1.202)**	
Physical capital			
PC: Farmland area			125.073 (2.335)**
Age of household head	-0.119 (-3.128)***	-0.284 NS	-34.212 NS
Household annual income	0.0000169 NS		
R2	0.536	0.221	0.278
Number of observations	60	60	60

Source: Authors.
OLS is used for the estimation. t-statistics are in parentheses.
*** 1%, ** 5%, *10% level of significance.
NS = Not significant

Table 3 Social capital and farmer welfare

	Productivity	Income	Health
Structural social capital			
Bonding	Positive		Negative
Bridging	Positive		
Linking	Negative	Negative	
Bracing	Negative	Positive	
Cognitive social capital			
Bonding			
Linking		Positive	Positive

Source: Compiled from Table 2.

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Appendix: Poster layout

Social Capital and Farmer Welfare in Malaysia

Introduction:
Background and jus tification

Map of the research site

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